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MEDICAL DEVELOPMENTS IN NORTH VIETNAM

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MEDICAL DEVELOPMENTS IN NORTH VIETNAM

This report contains the translation of articles from the Vietnamese-language periodicals Y Hoc Thuc Hanh (Applied Medical Science) and Y Hoc Viet Nam (Vietnamese Medical Science). Complete biographic information accompanies each article.

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RESEARCH ON THE KEEPING OF PENICILLIN IN THE TROPICAL CLIMATE OF NORTH VIETNAM

/Following is the translation of an article by Dang Hanh Khoi, Nguyen Van Tho, Nguyen Duy Mo, Ha Thanh An, Thach Thi Trinh, and Nguyen Viet Ngan in the Vietnamese-language periodical Y Hoc Viet Nam (Vietnamese Medical Science), No. 2 1962, Hanoi, pages 66-73./

1. PURPOSE OF THE STUDY

Our country is located in the tropical zone of the Northern Hemisphere. In the North there are many ranges of high mountains which prevent the winds from blowing inland. The mountain area is the center of heavy rains; its humidity level is high; it is considered the rainiest area in the North. In North Vietnam and the northern part of Central Vietnam, there are drizzles from January to March. Drizzles sometimes last an entire month (especially in March) and create a humid atmosphere. There are times when on the chart of saturation of the air, "humidity 100" is marked for several consecutive days. In Central Vietnam and along the Vietnamese-Laotian border there are winds blowing from Laos. From Nghe An to the South, the influences of the Laotian winds are the strongest. The Laotian winds are dry and hot, causing sudden climatic changes. The nearer one approaches the Equator the more numerous the tropical days are. The temperature is constantly higher than 20.6 degrees C and the humidity level is very high.

The climate in the North is tropical; it is influenced by the monsoon regime in Southeast Asia; as a result it is hot and humid all year round.

On the average, there are more than 230 hot and humid days annually (7 or 8 hot and humid months). The average annual temperature in all the localities (except the highlands) is over 20 degrees C. There are days when it reaches 42.5 degrees C (Lai Chau). The humidity level is usually higher than 85% nearly all over the country. The humidity level in the plateau area is generally higher than that in the plains.

The tropical climate in the North has the following characteristics:

- It is hot;
- It is very humid;
- It is very rainy;
- The heat radiated from the sun is great.

The nearer one approches the Equator, the more evident the above characteristics are.

Under those conditions, it is very difficult to keep penicillin, an antibiotic drug which is widely used and which is annually imported in large quantities.

The method of keeping penicillin at the present time varies in each area. In some areas, penicillin is kept in refrigerators, in cold storage rooms and in cool houses. In other areas, it is kept in barrels made of sheets of metal which contain cold water in the middle compartment. Again, there are localities in which penicillin is kept under normal conditions in warehouses. In many areas it has been found that, when penicillin is kept in refrigerators which are opened often, the effectiveness of penicillin is reduced faster than under

normal conditions. But, generally speaking, no complete study has been made regarding the matter. Research works on the keeping of penicillin in tropical climates are practically non-existent.

As a result, we have proceeded to study the keeping of penicillin. Our objective is to find out the factors which reduce the effectiveness of penicillin so as to adopt methods of keeping the drug which will be good, simple, inexpensive, and suitable to our present situation.

In addition, we have studied several moisture-resisting materials, moisture-absorbing materials and insulated boxes for the keeping of penicillin.

II. METHOD OF STUDY

A. SELECTION OF THE TYPE OF PENICILLIN TO BE USED AND MEANS OF CREATING CONDITIONS FOR KEEPING THE DRUG

The object of our study is penicillin-G imported from China. We have selected this type of penicillin because it is the most stable. To be able to determine its endurance is to be able to determine the maximum degree of endurance of the other types of penicillin.

We have selected one batch of penicillin-G 200.000 UI No. 56.459 which could be used until June 1961. This batch was the best in the warehouse and its expiration date was near the date of the recapitulation of our research work (two months ahead of the deadline). Thus, when we recapitulated, we were able to know how strong or weak was the effectiveness of the type of penicillin which was about to be obsolete.

Penicillin-G was divided into 17 lots, each lot having 12 bottles.

Fifteen lots were wrapped in paraffin wax and 2 lots in beeswax (so as to compare the moisture-resisting quality of paraffin wax with that of beeswax).

Our research bases were placed in 3 areas: Hanoi, Northwestern area, and border area, which have typically different climates.

Concretely speaking, the keeping of the lots is as follows:

1. In Hanoi: 12 lots

- 3 lots in refrigerators (humidity level 42%, temperature+8 degrees C); one lot is contained in a paper box, the second one in an airtight box made of sheets of metal and the third one in an airtight box containing lime (dry and cold surroundings).

- 1 lot is contained in an airtight vase with "humidity 100" and a normal temperature (temperature 13 to 34 degrees C).

- 3 lots in a dryer (usual temperature +37 degrees C, humidity 59%); two of the lots are in airtight vases with "humidity 100" (high level of humidity and high temperature), one wrapped in beeswax and the other in paraffin wax. The third lot is placed under the usual humidity level in the dryer (high temperature).

- 1 lot is contained in an airtight box containing lime and placed in a cool house with an air-conditioner and a dehumidifier (cool surroundings). Temperature + 5 degrees to + 20 degrees C, humidity: below 65%).

- 4 lots are under normal conditions in the warehouse. Temperature 13 to 35 degrees C, humidity 52 to 92%. Two of the lots are placed in

airtight boxes (one wrapped in beeswax, the other in paraffin wax). The third lot is in an airtight box containing lime (dry surroundings). The fourth lot is in an airtight box containing roasted glutenous rice (dry surroundings).

2. In the Northwestern area: 2 lots

Both lots are placed under normal conditions in the warehouse. Temperature 7 to 36.5 degrees C, humidity 37 to 100%. The first lot is in an airtight box, the second in an airtight box containing lime (dry surroundings). The climate in the Northwestern area is very changeable; daily differences in humidity levels sometimes reach 32% and those in temperatures 10 degrees C.

3. In the border area: 3 lots

They are placed under normal conditions in the warehouse. Temperature 15 to 34 degrees C, humidity 54 to 100%. One lot is in a paper box, the second one in an airtight box containing lime (dry surroundings), and the third one in an aluminum box placed on the ground so as to create the highest level of humidity in the room.

In all those research bases, there are devices to measure the humidity level and the temperature. In Hanoi the following devices are used: Assman hygrometer, August hygrometer, automatic-recording hygrometer, mercurial thermometer, automatic-recording thermometer, and the like. In the Northwestern area and border area, home-made August hygrometers are used.

From the standpoint of checking, the chemical and microbial methods

are used. The chemical method is that of determining the quantity of iodine; it has been regulated in many pharmaceutical papers (in the People's Republic of Germany, Great Britain, and France). The microbial method is that of measuring the circle made by a bacteria and of recording the results according to the computation table used in the People's Republic of Germany.

Usually, other countries mainly use the results obtained from the use of the microbial method, but in our country we do not have samples of penicillin having a 100% strength. As a result, we have to combine the two methods and to take relatively similar results from both of them. If the microbial results equal ½ of the chemical results, the latter are considered wrong and eliminated. Once every 3 months there is a preliminary pooling of results; after one year recapitulation is made.

B. MOISTURE-RESISTING MATERIALS, MOISTURE-ABSORBING MATERIALS AND INSULATED BOXES

1. Moisture-resisting materials:

We have studied 19 formulas for making moisture-resisting materials with the following materials: beeswax, paraffin wax, collodion, tar, commercial wax, rubber + beeswax, crepe + essence of pine oil, film-coating mixture, and "cellophane".

Following are samples of moisture-resisting materials:

- Sample 1: beeswax bag
- " 2: collodion

- Sample 3: commercial wax
- " 4: tar
- " 5: collophan
- " 6: beeswax + paraffin wax (1 : 3)
- " 7: " " (2 : 2)
- " 8: " " (3 : 1)
- " 9: paraffin wax + collophan + tar (1 : 1 : 1)
- " 10: " " " (10: 5 : 15)
- " 11: " " " (5 : 5 : 15)
- " 12: beeswax + collophan + tar (1 : 1 : 1)
- " 13: " " " (10 : 5 : 15)
- " 14: " " " (5 : 5 : 15)
- " 15: rubber + beeswax
- " 16: crepe + chloroform
- " 17: crepe + essence of pine oil
- " 18: film-coating mixture
- " 19: paraffin wax
- " 20: no bag or stopper (so as to be compared with bottles having them)

Each sample is divided into 3 lots, each lot having 2 bottles placed in 3 different surroundings:

- Humidity 100, temperature normal (in airtight vases containing water)
- Normal conditions (temperature 13 to 14 degrees C, humidity 52 to 92%)

- Normal conditions in airtight paper boxes (to determine the moisture-resisting capability of paper boxes).

We use the fluorescent method to detect moisture stains. We mix fluorescein powder with pure rice flour (moisture-absorbing substance) and put the mixture in a penicillin bottle which is empty, clean and dry. Afterwards, the bottle is rapidly closed with the above-mentioned materials (in surroundings having the humidity level of 35%). We regularly check the change in colors of the mixture and use ultraviolet rays to detect moisture stains. We have twice studied the moisture-resisting substances: 30 days in the first wave, 120 in the second wave.

2. Moisture-absorbing materials:

We have limited our study to a number of moisture-absorbing materials which are available and appropriate with the keeping of penicillin: lime, "silicagel", charcoal, and roasted glutenous rice.

That has been done in open surroundings and close surroundings (dryers) having devices to measure the temperature and humidity. As regards lime, it has been studied in wooden boxes which are not completely airtight.

3. Insulated boxes:

On the basis of the different heat-conducting coefficients of the raw materials, we have made insulated wooden boxes which have two walls; between the two walls we have put insulating materials like straw, sawdust, rice husks, and cork crumbs; as for linings, we have used paper or blankets made in Nam Dinh; the boxes also have a layer of tar so as to

reduce the temperature inside the boxes from 5 to 7 degrees C as compared with the temperature outside.

We have raised the temperature outside the boxes from 30 to 41 degrees C by using lightbulbs.

III. RESULTS OF OUR STUDY AND OBSERVATIONS - A. PENICILLIN

After one year, the strength of the penicillin samples is reduced as follows:

- In refrigerators: reduction 4 to 8% (refrigerators seldom opened, temperature 8 degrees C, humidity 42%)

- In cool rooms: reduction 4 to 7% (temperature 5 to 20 degrees C, humidity 65%)

- Under normal conditions in the warehouse in Hanoi: reduction 2 to 12% (temperature 13 to 35 degrees, humidity 52-92%); in the warehouse in the border area: reduction 6 to 9% (temperature 15-34, humidity 54-100); in the Northwestern area: reduction 5-15% (temperature 7-36, humidity 37-100). Reduction 6.5% or no reduction in cases of penicillin kept in airtight boxes in any area. No reduction after 3 months in the lot wrapped in beeswax in the warehouse in Hanoi.

- In dryers: reduction 4-11% (temperature 37, humidity 59)

- In dryers with temperature 37 degrees C, humidity 100: completely destroyed after 9 months (reduction 30% after 3 months, 50% after 6 months). For the lot wrapped in beeswax, reduction 6.5% after 3 months (temperature 37, humidity 100). Reduction 30% for the lot wrapped in paraffin wax.

The above results show that humidity and temperature are the two

main factors which damage penicillin. Humidity is the most damaging factor. In areas in which the temperature and the humidity level are high, the strength of penicillin is reduced very rapidly. Wherever the humidity level is low (under 60%) the strength of penicillin varies very little although the regular temperature may be 37 degrees C.

In addition, the results of chemical and microbial checking are closely connected with the external changes (form, color, etc.) of the penicillin powder. If the powder is white, its effectiveness is high; if it is granular, its effectiveness has been reduced. The reduction of effectiveness is great when the powder has melted into a dark yellow glue.

Thus, on the basis of the changes in form and color of the penicillin powder, one can have a rough idea about the quality of the penicillin one is going to use; on the same basis, one can more easily sort the various penicillin powders.

Containers having stoppers made of thick, moisture-resisting rubber kept penicillin better than those having thin stoppers.

B. MOISTURE-RESISTING MATERIALS, MOISTURE-ABSORBING MATERIALS AND INSULATED BOXES

1. Moisture-resisting materials:

Out of the 19 samples of moisture-resisting materials mentioned above, we have been able to select the 3 best ones, as evidenced in the following table:

Selected moisture-resisting materials	Normal Temp. Humidity 100		Normal Temp. & Humidity		Normal Temp. & Humidity in paper boxes	
	Color Change	Fluo-rescence	Color Change	Fluo-rescence	Color Change	Fluo-rescence
- Beeswax	11 days	No	No	No	No	No
- Beeswax + paraffin wax (1:1)	106	-	-	-	-	-
- Paraffin+collophan +tar (10:5:15)	73	No	116	No	No	No
- Paraffin	73	116	116	-	-	-
- No cover or cork (for comparison)	3	15	31	67	36	67
- Model tube (airtight)	No	No	No	No	No	No

On the basis of the above results, it can be concluded that beeswax is the best moisture-resisting material; next comes paraffin which has itself some moisture. But since beeswax is expensive and paraffin much cheaper, we should use a mixture of beeswax and paraffin (1:1 ratio). The mixture paraffin + collophan + tar (10:5:15) is better than paraffin but has an unsightly black color.

2. Moisture-absorbing materials:

Silicagel and lime are the two materials having the best and most rapid ability of absorbing moisture, as compared with the other moisture-absorbing materials we have studied (roasted glutenous rice and charcoal).

a. In closed surroundings (dryer 6.1 cubic decimeter + 100 grams of moisture-absorbing material), the dryer with lime has the initial

humidity level of 89% which is reduced to 78%. Second day: 10%; third day: 1.5%; fourth day: 0%. In a vessel having silicagel (same size and amount of moisture-absorbing material as above) the initial humidity level is 89%; reduction to 80%; second day: 46%; third day: 41%; fourth day: 47.5%; during 4 months: about the same with fluctuations of 0.5% more or less, depending on the atmospheric pressure each day). Thus, in closed surroundings, line absorbs moisture faster and better than silicagel.

b. In open surroundings, lime and silicagel have approximately the same moisture-absorbing ability. On the average, they can absorb the amount of moisture equal to 40-45% of their weight, which is computed according to the formula $\frac{b - a}{a} \times 100$, (a: original weight of the moisture-absorbing material; b: weight of the material plus moisture)

Roasted glutenous rice can absorb an amount of moisture equal to 10-15% of its weight, charcoal 9-13%.

c. In not completely airtight surroundings, lime becomes slaked very fast (completely slaked in 7 days, on the average), increasing the temperature in the box by 1 - 1.5 degrees C and tripling its volume.

Silicagel is better than lime because it is clean and does not increase its volume; in addition, after being saturated with water, it can be regenerated.

In those surroundings, silicagel is saturated with moisture in 7 - 10 days on the average. Thus, it is necessary to regenerate it every week by putting it in a dryer (110 degrees C, 3 hours) or roasting it gently; it can also be put in an airtight barrel containing lime.

When silicagel is dry, it is necessary to place it in a safe storage area immediately. Silicagel can be regenerated many times; its moisture-absorbing ability is reduced slightly and insignificantly. It is easy to manufacture and its cost of production is relatively low (2.5 to 3 piasters for 1 kilogram); consequently, it can be widely used for various purposes.

Lime does not have the above qualities but is easy to find and inexpensive; it is widely used among the people and in the pharmaceutical branch. It has the capacity of lowering the humidity level greatly (1 - 2%). It is very suitable for drugs and tools that need a low humidity level. When lime is used, it is necessary to pay attention to overcoming its weaknesses by placing it in airtight boxes and barrels (airtight iron barrels, for instance)

3. Insulated boxes:

Insulated boxes having crushed cork or straw have the best insulating capacity.

We created a temperature of 30-41 degrees C around the insulated boxes for 3 - 4.30 hours. Boxes having crushed cork have the capacity of reducing the temperature by 4 - 14 degrees C; boxes having straw 5 - 12 degrees C. The higher and more lasting the temperature in the surroundings is, the less reduced the temperature in the boxes is. If the temperature is kept at 40 degrees C for 3 hours, the insulated boxes have the capacity of reducing the temperature inside by 5 - 7 degrees C on the average.

CONCLUSIONS

Following are the conclusions and suggestions regarding the keeping of penicillin in Vietnam.

On the basis of the results of our study, we have the following conclusions:

1. High temperature and humidity are the two damaging factors as regards the keeping of penicillin. Humidity is more damaging than temperature, but the latter is a contributing factor. The effectiveness of penicillin is reduced very fast when there is high temperature and humidity.

2. As regards the keeping of penicillin in Vietnam, it must be given special attention because:

- penicillin will lose 4 - 8% of its effectiveness after one year even when it is kept in paraffin-covered boxes in a refrigerator placed in an air-conditioned room;

- under normal conditions, penicillin will lose 2-12% of its effectiveness after one year in Hanoi, 6-9% in the border area, and 5-15% in the Northwestern area.

Those are results based on penicillin-G. For other types of penicillin, the rate of reduction in effectiveness is even faster.

3. As regards the method of keeping and protecting penicillin, one should combine anti-moisture operations with the maintaining of low temperatures. In the areas in which there are no conditions for keeping the temperature low--such as, small warehouses, mobile units, etc.--

the main thing is to fight against moisture; it is not essential to have refrigerators which are expensive. Once the humidity level has been reduced, it is not urgent to have cold rooms or refrigerators.

We suggest the following methods of keeping penicillin:

- In large warehouses having adequate facilities:

a. Beeswax or beeswax + paraffin (1:1). At least paraffin if beeswax is not available.

b. Temperature + 5 to + 15 degrees C, humidity: under 65%.

- In units, shops, small hospitals, etc., having inadequate facilities: the main thing is to reduce the humidity level.

a. Beeswax or beeswax + paraffin (1:1)

b. Airtight boxes, iron barrels or nylon bags, having silicagel or lime which are replaced or regenerated regularly.

c. In hot weather, penicillin should be put in insulated boxes, when possible.

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IODOSOJA, A NEW ORGANIC IODINE DRUG

/Following is the translation of an article by Truong Cong Quyen, Nguyen Thi Diem Hong, Le Ngoc Bich, and Vu Anh Vinh in the Vietnamese-language periodical Y Hoc Viet Nam (Vietnamese Medical Science), No. 2, 1962, Hanoi, pages 62-66./

This pharmaceutical product is made of iodine and soybean flour (Soja hispida) and, thus, is named Iodosoja by us.

Iodosoja is a new organic iodine drug used to cure and prevent endemic goiter, a disease which is rather widespread in Vietnam and usually in the mountainous areas.

Up to the present time, to cure and prevent this disease, we generally used iodine and inorganic iodic salts under the pharmaceutical forms of iodine alcohol, Lugol solution, etc...

But the use of the above solutions has the following shortcomings:

1. The inorganic iodine drugs can easily cause iodism;

2. The transportation of iodine solutions to our compatriots in the mountain areas is difficult; sometimes it takes 2 or 3 days of mountain climbing before they reach their destination and they may lose their proper dosage through evaporation; their containers may also be broken;

3. The use of iodine solutions is still difficult since the containers usually do not have good caps and the solutions can easily evaporate; furthermore, droppers have to be used, which makes it difficult for our compatriots to have precise doses and keep the solutions clean.

When mixed with water for use, the iodine solutions have a bitter, pungent taste. Iodosoja has partly overcome the above-mentioned shortcomings because it is in the form of pills and its main ingredient is organic iodine, which makes its use easy and does not cause iodism often. Furthermore, it contains .55% of thyroxin iodine which increases the effectiveness of the drug against goiter.

As regards preparation, iodosoja is made of simple raw materials which are plentiful in Vietnam; soybean flour, which is rich in protein, can be iodized without any complicated process; its preparation is not as difficult as that of casein iodine, iodized peptone, etc...

Moreover, on the basis of the main substances found in soybean which include:

- Casein 35%
- Albumin 0.5%
- Carbohydrates 15%
- Oleaginous substances 20%
  (Oil, lecitine, Cholesterine)

We can see that the above substances can be combined with inorganic iodine to create organic iodine. Thus, Iodosoja has the effectiveness found in many other organic iodine drugs.

A. PREPARATION

1. Raw Materials

- Roasted and dehydrated soybean flour
- Iodine

- Iodine alkali

- Monohydrocarbonate of sodium

- 90 -proof alcohol

- Distilled water

2. Equipment:

- Retort with 3 openings and a stirring device

- Thermometer

- Funnel

- Double boiler

- Dryer

3. Preparation method:

- In a retort having a stirring device, a thermometer and a funnel, we put a solution of 2 grams of Monohydrocarbonate of sodium and 300 milliliters of distilled water.

- We knead 40 grams of soybean flour in a porcelain bowl and then put it in the retort. We rinse the bowl with distilled water until all the flour is removed (in the retort there is about 500 milliliters of mixture).

Double-boiling the retort until its temperature reaches 37 or 40 degrees C, we maintain this temperature while stirring the mixture and slowly funneling into the retort 150 grams of iodine alcohol (iodine 7.4 grams, Iodine alkali 4.5 grams, 90-proof alcohol 127 grams, distilled water 10.5 grams) during a period of 2 hours. Afterwards, we continue to stir the mixture and raise the temperature to 50 degrees C for 2 more hours.

We then simmer it at the temperature of 60 degrees C until it looks like sirup; put in a porcelain bowl, it is simmered again until it is almost dry; after being ground in a mortar, it is once more simmered until it loses all its water and, then, it is dried at the temperature of 70 or 80 degrees C until it is completely dry.

It is necessary to make the whole operation continuous so that the flour will not become sour.

B. NATURE OF THE PRODUCT

The powder is brownish yellow; its aroma is sweet, its taste slightly bitter; it does not dissolve in water or such solvents as alcohol, ether, chloroform and benzene.

C. DOSAGE

1. Dosage of free iodine (according to the British pharmaceutical method in the Pharmaceutical Book of 1958):

In a retort, shake well one gram of Iodosoja powder, 5 milliliters of $CHCl_3$ and one gram of Iodine Alkali which has been well mixed with 20 milliliters of water, and titrate it with OIN (sodium thiosulphate).

In reality, we have not found free iodine.

2. Dosage of thyroxine iodine:

Dissolve one gram of the product with 50 milliliters of 8% barite solution for 6 continuous hours. Put it in a vessel and mix it with hydrochloric acid until pH= 4. Rinse it many times with 90 milliliters of butanol, and then with 90 millimeters of a solution containing 5 grams of carbonate of sodium in 100 millimeters of 15% NaOH. Rinse it with

45 milliliters of barite solution. Eliminate the rinsing liquid. Make the butanol solution evaporate.

Transfer the product to a nickel cup, add one milliliter of alcohol and then two milliliters of 20% KOH in alcohol; double boil it to make the water evaporate and bake it above an alcohol lamp for 30 minutes. Let it cool off, mix it with 3 milliliters of water, grind and evaporize its water. Mix it again with water containing 1/500% salt, refine it and add water until the total quantity is 200 milliliters; oxidize it by boiling it for 10 minutes with 10 milliliters of 2% $KMnO_4$. Let it cool off. Add acetic acid and eliminate nitrite. When the solution has cooled off, add Iodine alkali and determine the dosage by N/100 thiosulphate of sodium. The quantity of iodine in 100 grams is computed according to the formula $\frac{n \times 0.000634 \times 100}{6}$

n: the amount of millimeters of N/100 thiosulphate of sodium used.

The proportion of iodine is computed from the powder which has been dried at 105 degrees C. See results in Table 1

TABLE 1

Denominator	Percentage of thyroxine iodine
1	0.53
2	0.54
3	0.55
4	0.57
5	0.55
average	0.55

The average result is 0.55%

3. Dosage of organic iodine:

Boil one gram of Iodosoja powder, 10 milliliters of acetic acid and one gram of nickel powder for one hour in a retort. After one hour, add 30 milliliters of boiled water and filter the solution with cotton. Wash the retort twice with 20 milliliters of boiled water each time; filter the liquid with cotton. When the solution has cooled off, add 15 milliliters of HCI, 5 milliliters of 10% KCN, and determine the dosage with M/20 iodine alkali (10.7 grams of KI03 and water is added until the quantity is 100 milliliters); when the solution changes its color from dark brown to light brown, add 5 milliliters of 5% starch powder; the operation continues until the green color disappears. One milliliter M/20 KI03 corresponds to 0.01269 gram of iodine. See results in Table 2.

TABLE 2

Denominator	Quantity of organic iodine in Iodosoja powder prepared in the alkali medium
1	0.182
2	0.189
3	0.184
4	0.190
5	0.189
6	0.189
average	0.187

Thus the average percentage of organic iodine in the Iodosoja powder prepared in the alkali medium is 18.7%.

D. PHARMACEUTICAL FORM

In cooperation with the Pharmaceutical Products Enterprise No. 2, we have made pills with the Iodosoja powder; each pill contains 0.025 gramme of Iodosoja powder corresponding to 0.005 gram of organic iodine.

Pills are shining and pretty-looking; they can be kept for a year and are easy to transport and use.

E. PHARMACEUTICAL USAGE AND DOSAGE

In cooperation with the Pharmacy Department of the Medical College, we have tested Iodosaja pills clinically and had good results. Indeed, after 3 months of treatment, 2 patients suffering from nodular goiter completely recovered; in the cases of simple goiter, the disease did not expand and the patient felt comfortable and less tired; furthermore, there was no allergic reaction to the pills.

The average dosage corresponds to that of the Lugol solution and other drugs abroad. Adults: three times daily, one to six pills each time. Children from one to fifteen years of age: three times daily, one or two pills each time. Newborn babies: three times daily, 1/3 or one pill each time.

Those are the initial results. We keep on testing the drug clinically and seeking to simplify further the manufacturing method; at the same time, we are trying to raise further the percentage of thyroxine iodine.

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SOME CHARACTERISTICS OF STOMACH AND DUODENUM ULCERS AND INFLAMMATIONS (DISCOVERED THROUGH ONE YEAR OF WORK IN THE X-RAY DEPARTMENT OF THE ARMY HOSPITAL X)

[Following is the translation of an article by Tran Quang Vinh, Hoang Ky, Le Minh Tuyen, and Duong Trong Tung in the Vietnamese-language periodical Y Hoc Viet Nam (Vietnamese Medical Science), No. 2, 1962, Hanoi, pages 78-87.]

Stomach and duodenum ulcers and inflammations represent an important percentage among the prevalent diseases and have created rather many difficulties in their radical treatment. As observed by Pomerantsev, these diseases in our country do not occur alone but are usually combined with other diseases like the parasitic diseases in the digestive tract. Through comparison with international data, we note that the above-mentioned diseases in our country have several characteristics as they are studied in the X-ray Department of the Military Hospital X.

From January to August 1960, we X-rayed 815 patients suffering from pains in the upper part of the belly for a rather long period of time. The great majority of those patients were military men; some were civilians, students, and cadres in several local governmental services. There were 802 men and 13 women. Their age range varied from 14 to 70 years; most patients were within the age range of 18 and 40 years.

1. Among the 815 patients, there were 246 cases of ulcers or 30.18% of all cases, distributed as follows:

- 66 cases of stomach ulcer, representing 8.05% of all the cases and 26% of all ulcer cases.

- 180 cases of duodenum ulcers, i.e. 22% of all cases and 73.1% of all ulcer cases.

Percentages computed in accordance with the location of the ulcer as compared with all the ulcer cases are as follows:

STOMACH

	Lengthwise	Corner	Widthwise	Near the Pylorus	Pylorus
Number of cases	1	16	6	34	9
Percentage	0.4	6.5	2.4	13.8	3.6

DUODENUM

	Middle	Bottom	Top
Number of cases	141	31	8
Percentage	37.3	12.6	3.2

In the research work of Pomerantsev in the Vietnamese-Soviet Friendship Hospital, the percentage of cases of ulcers was 28. Our cases of stomach and duodenum ulcers do not differ much from those of Smotrov who maintains that cases of duodenum ulcers are 2.2 times more numerous than those of stomach ulcers; Tsidulko maintains that cases of duodenum ulcers are 2.5 times more numerous than those of stomach ulcers. Kalk and Mayo have nearly similar conclusions. On the contrary, according to Abel and Madelung, in World War II, especially in the period from 1941 to 1942, the proportion of duodenum ulcers greatly decreased as compared with that of stomach ulcers. In the document "Supplementing the Soviet Medical Experiences in the Patriotic War", one finds that the proportion of the two diseases was

almost the same in the Red Army: stomach ulcers 49.9% and duodenum ulcers 46.2%. In another statistical survey of the Soviet Union, one also finds that the proportion of the two diseases was nearly the same in the period 1941-1942: stomach ulcers 56.4% and duodenum ulcers 43.6%. According to the statistical surveys of Aleckova, Flekel, and Funt, those two types of disease have almost the same proportion. When it is compared with international data, our percentage regarding the location of the ulcer has many dissimilarities. According to Heinrich Eschbach (1949) there were 25% of all cases found in the small curve of the stomach, 7.5% in the corner of the stomach, 3% near the pylorus, 13.5% in the pylorus, and 41% in the duodenum.

According to the Soviet documents, one finds:

	Large Ulcers	Medium-size Ulcers	Small Ulcers	Total Percentage
Body of the stomach	15.7%	11.4%	7.1%	33%
Near the pylorus	6.1%	4%	3.4%	13%
Duodenum	18.3%	14.8%	10.4%	

The percentage of ulcers in the body of the stomach, especially from the small curve of the stomach up, is much smaller. On the other hand, the percentage of ulcers in the pyloric antrum and near the pylorus is relatively high (65% as compared with all cases of stomach ulcers). In Europe, according to the data of a number of authors, the opposite situation occurs: ulcers in the small curve of the stomach are more numerous than those in the pyloric antrum and near the pylorus, as

shown in the following table:

Author	Ulcers in the small curve of the stomach	Ulcers in the pylorus and near the pylorus
	Percentage	Percentage
Hauser	70.05	25.47
Clairmont Meyer	66.6	33.3
Haudek	69.3	30.7
Albrecht	70	30

There is a nearly similar situation in the Soviet Union as shown in the following table:

LOCATION	UPENSKI (over 2,742 cases)	GUSTERIN (over 85 cases)	STERN
Small curve	41.4%	70%	46.5%
Pylorus and antrum	18.2%	28%	23.3%
Cardiac portion	1.5%	2%	1.6%
Posterior wall	3%		16.3%
Anterior wall	1.3%		
Large curve	0.07%		1.8%

We had 8 cases of two ulcers, representing 3.2% of the total number of ulcers: 2 cases of two ulcers in the duodenum and 5 cases of ulcers in the body of the stomach and in the duodenum. This percentage is somewhat similar to that of Stern (3.8%). Those of Lorier (5%) and of Geinac (12%) are higher. The eighth case in which there were ulcers in the pylorus and in the duodenum is, in the opinion of Gutman, very rare.

As remarked by Pomerantsev, ulcers are all accompanied by digestive disturbances which have been touched upon by Flekel I.M. These disturbances sometimes erase the characteristics of the ulcer and make it appear like the inflammation of the stomach or the duodenum. Indeed, we have seen in X-ray films that in 99% of all cases of ulcers, the picture of the ulcer is combined with that of the inflammation of the stomach or the duodenum; the inflammation is localized (usually in the antrum or in the D2 zone) or covers the entire stomach or the duodenum from D1 to D3. In 246 cases of ulcer there were 95 cases which were accompanied by the inflammation of the stomach and 66 cases in which there was duodenum inflammation; in 77 cases there was gastro-duodenitis. That agrees with the opinion of Hauser and Konjetzny who maintain that nearly all ulcers are combined with the inflammation of the stomach or duodenum; the question is which disease starts first?

Percentages found in the Red Army of the Soviet Union are also similar: 78.6% with inflammation of the left side of the stomach and 21.4% with inflammation of the antrum.

In addition to the pictures of the inflammation, we have seen in X-ray films and on the fluorescent screen pictures of functional disturbances or other unusual pictures: dilatation of the duodenum (4 cases), stomach having the shape of a waterfall in the cardiac portion because of nervous tension (Assmann) (27 cases), relaxation of the bottom of the stomach (33 cases, 13.4% of all cases of ulcer); pneumatosis Bulbi (9 cases), distorted duodenum because tightened (11 cases), dilated

duodenum (4 cases). Depending on the age of the ulcer and the reactive capacity of the stomach, the tenicity varies and influences the circulation of barytes.

In the 246 cases, we have noted a number of peculiar conditions which may exercise influences on the clinical symptoms: 3 cases of displaced serous coat (according to Teschenforf, that can cause bleeding), 1 case of diverticulum in the duodenum and 4 cases of mobile duodenum.

As regards the age range of the patients, we have the following table:

Age	Stomach ulcer	Percentage	Duodenum ulcer	Percentage
14-18			2	
18-30	37	4.53% (1) 15 % (2) 56 % (3)	118	14.4% (1) 47 % (2) 65 % (3)
30-40	22	2.6 % (1) 8.9 % (2)	51	6.2% (1) 20. % (2)
40-50	5		7	
50-60	1		2	
60-70	1		1	

(1) as compared with the total number of patients
(2) as compared with the total cases of ulcers
(3) as compared with the total cases of stomach and duodenum ulcers

According to the above table, ulcers occur mostly within the age range 18-40, particularly from 20 to 30 years of age. Pomerantsev and Flekel I. M. also have noted that ulcers mostly attack persons under 40. According to Kalk's data (1930), the average age of duodenum ulcer sufferers is 30 and that of stomach ulcer patients 40; in our country we have found that those suffering from stomach ulcer are younger. According to the data gathered by H. Eschbach (1946), the above types of ulcer occur at a later age: 50 for stomach ulcers and 40 for duodenum ulcers. As indicated in another statistical survey in Germany in 1949, ulcers occur at a later date than in our country:

Average age of new stomach ulcer sufferers: 30.9

Average age of old stomach ulcer sufferers: 31.7

Average age of new duodenum ulcer sufferers: 31.3

Average age of old duodenum ulcer sufferers: 32.6

Data regarding the ulcer situation in the Soviet Union in the war years show that ulcers occur at a relatively younger age; the age ranges, however, are still older than in our country:

Stomach ulcers:	From 26 to 35 years of age	32%
	From 36 to 45	45%
Duodenum ulcers:	From 26 to 35	41%
	From 36 to 45	38%

In our country, both types of ulcer occur at about the same age and the sufferer is young.

As for the sex of the patient, our data are not complete because our hospital does not admit civilians for treatment and, thus, the number of female patients is very small.

As regards the length of the diseases, we have the following table:

Length of the disease	Stomach ulcer		Duodenum ulcer	
1 year	10 persons		42 persons	
2 years	24 "		62 "	
3-5 years	15 "	36% (of the total number of cases)	52 "	34% (of the total number of cases)
6-10 years	8 "	21%	11 "	28%

Generally speaking, the great majority of the patients have had their disease for 2 years or more. There is no case under 1 year. Pomerantsev also has recognised that the number of patients having a long history of the disease is greater than that of new sufferers. Data in the Soviet Union during the patriotic war show that the percentage of patients suffering from 5 to 10 years is the highest; next come those who have suffered from 3 to 5 years. In our survey, the percentage of those suffering from 2 to 3 years is the highest.

PERCENTAGE IN THE RED ARMY OF THE SOVIET UNION (during the patriotic war)

	Stomach ulcer	Duodenum ulcer
Under 6 months	2.9%	2.4%
From 6 months to 1 year	9.9%	10.6%
From 1 year to 2 years	15.5%	12%
From 2 years to 3 years	15.6%	18.7%
From 3 years to 5 years	18%	17.4%
From 5 years to 10 years	23%	25.1%

We have seldom had cases of new sufferers because they are treated in their units; furthermore, as there are not too many digestive troubles, the patients usually neglect their treatment and do not come to the hospital.

As for the location of the pains, most cases are in the area below

the sternum: 84% in stomach ulcers and 60% in duodenum ulcers. This percentage is somewhat similar to that found in the army of the Soviet Union: 84% in stomach ulcers and 81.8% in duodenum ulcers. A small number of patients feels pains in the area around the navel or the lower ribs. In a rather great number of cases, these pain areas do not match the location of the ulcer which appears on the fluorescent screen.

Most patients do not have periodic pains, nor the pains are closely connected with meals as Gutman has described. In 66 cases of stomach ulcer, there are 31 cases in which the patients suffer pains late after meals; in 110 cases of duodenum ulcer, there are 50 cases in which the patients have pains right after meals. According to data in the Soviet Union during the war, 12.6% of cases of stomach ulcers and 11% of cases of duodenum ulcers had no connection with meals; in 64.6% of cases of duodenum ulcer the pains came early, in 4.6% of cases of stomach ulcer they came late, and in 2.7% of cases of stomach ulcer they came when the patients were hungry.

We have seen rather many cases in which the pains were burning (30%) like those caused by the inflammation of the stomach. As observed by Pomerantsev, there has been no case in which the muscles in the belly are contracted as described by Gutman. In 12 cases of stomach ulcer and 20 cases of duodenum ulcer, there was bleeding in the digestive system (vomiting or excreting of blood); the percentage was 16.2 as compared with all the cases. Pomerantsev gives a percentage higher than 37.5. So do several other authors: Falk (47% in stomach ulcers and 27% in

duodenum ulcers), Petrova (20-25% in stomach ulcers, 27-37% in duodenum ulcers), Herot (31%), Luria (47% in stomach ulcers, 27% in duodenum ulcers), Nicolaev (37%).

Several other authors give percentages somewhat similar to ours: Soviet authors during the patriotic war: Khlebnikov (14.4%, Golinker (18.3%), Milks (15.1%). Others give lower percentages: Lebedev (8%), Turgel (7.6%), Fleikel (12%).

Vomiting and burping up acid liquids are more common in cases of stomach ulcers than in cases of duodenum ulcers. There were, however, 85 cases of duodenum ulcers in which burping of acid liquids occurred and 36 cases in which the patients vomited food, contrary to the observations of Gutman who maintains that duodenum ulcers rarely cause vomiting. In the documents of the army medical corps of the Soviet Union, it is noted that vomiting of food occurred in 68.8% of duodenum ulcers, vomiting of blood in 18.3%, and burping of acid liquids in 5.5%.

2. In addition to ulcers, there were 517 cases out of 815 cases in which there was inflammation of the stomach or the duodenum; the percentage was 63.

In those 517 cases, there were 264 cases of inflammation of the stomach, 136 cases of inflammation of the duodenum and 117 cases of gastro-duodenitis. Inflammation of the stomach represents 47% of all cases of inflammation, inflammation of the duodenum 26%, and gastro-duodenitis 22.6%. Compared with Glone's percentage (20%), ours is 3 times as big (63%). Compared with the percentages in the army of the Soviet

Union (during the war) our percentage is almost similar: 64.4% in cases of stomach ulcer, duodenum ulcer and pylero-duodenitis.

In our data, stomach ulcer occurs mostly (62%) in the age range from 18 to 30 years. Next comes the age range from 30 to 40 years. Compared with the data of the Soviet Union, the highest percentage of inflammation (38%) among the people occurs in the age range from 21 to 30 years; among military men, the highest percentage (40%) is in the age range from 31 to 40 years. In our country, those who suffer from inflammation are younger than in the Soviet Union.

As regards the length of the disease, over 2/5 of the patients have suffered since 2 years, nearly 1/5 of them since 3 to 5 years; in 78 cases the patients have suffered since one year. The number of patients having the disease for a few months is insignificant. These percentages are nearly similar to those concerning ulcers.

Most patients had pains in the upper area of the stomach (82% of all cases of inflammation). In the Soviet data, the cases of new inflammation in which the patients suffer in the upper area represent 58.9% of all cases whereas in most cases of old inflammation the patients had pains in the upper area. A small number of our patients had pains all over their bellies, either around the navel or in the area of the lower ribs. Burning pains represent 41% of all cases. The percentage in the Soviet Union is almost similar: 40% in cases of pyperacid gastritis and 10% in cases of anacid gastritis. The percentage of burning pains in cases of new inflammation of the stomach is smaller: 23.3% of all cases.

Among our patients, pains occurred before or right during meals and right after meals in 346 cases, i.e. 66% of all cases. Pains were felt long after meals in 171 cases, i.e. 33%. According to data in the Soviet Union, pains occur early in 35.2% of all cases, late in 23.5% and continously in 24.9%.

In our statistical survey, digestive disturbances are divided as follows: burping of acid liquids 56% and vomiting of food 11%. In the Soviet Union the percentage of vomiting is higher: vomiting 69.4% and burping of acid liquids 67.8%. In addition, among our patients, there were 39 cases in which there was bleeding, mostly in the form of blood vomiting: 7.4%.

Among the forms of inflammation of the stomach, the most prevailing one is catarrhal gastritis which is manifest in pictures showing thickened, dim and somewhat rigid mucous membranes; usually there is hypersecretion. Next comes hypertrophic gastritis with expanded, hardened mucous membranes having edges which look like the teeth of a saw.- The rare forms are atrophic gastritis (3 cases) with anemic symptoms (over 2 million red cells in a centiliter of blood) and pseudo-polyposis (3 cases) with expanded mucous membranes looking like polypi. Perhaps the reason why we did not have many cases of atrophic gastritis is that most of our patients were young; indeed, according to Henning, Heinkel, and Elster, this form is usually found among people over 40 years old (32% over 40 and 20% under 40).

The most usual form of inflammation of the duodenum is tubular

duodenitis in which the duodenum hardens into a tube. Next comes the form of oedematic duodenitis in which the mucous membranes look like the scales of a turtle. We have had only one case of hypertrophic duodenitis.

The digestive disturbances due to the inflammation of the duodenum are manifest on the fluorescent screen in the form of "dyskinesies", slow circulation, expanded duodenum, tightened pylorus and "retrogade peristaltism; these forms were found in most of our cases.

REMARKS ON THE RESULTS. Among the diseases that affect the upper part of the digestive system, the inflammation of the stomach and the duodenum and ulcers in the stomach and the duodenum are most frequent in our country. As compared with European countries, the percentages of these two diseases are higher in our country. For example, in the Soviet Union, the percentage of ulcers is 9.47 as compared with the total number of patients, according to Alinski (1936); according to Toprover (1928-32) 6.5%; according to Lucomski (1953) .44%; and according to Rosenthal (Budapest) 9.3%. Among the forms of ulcer, the medio-bulbar ulcer is most numerous, more than twice as numerous as the stomach ulcer; on the contrary, according to European authors, the percentages of these two diseases are almost alike in Europe. Perhaps that is the reason why the percentage of inflammation of the duodenum is also higher in our country than in Europe. Comrade-specialist Yantsev has said that cases of inflammation of the duodenum similar to those found in Vietnam are rare in Bulgaria.

As regards the location of ulcers, the area near the pylorus and the antrum represent a relatively high ratio as compared with that of other

locations. It is necessary to remember that those types of ulcers usually lead to the narrowing of the pylorus (according to Gutman, ½ of all cases), expanded stomach and transformation of the small curve of the stomach. In Europe, ulcers located in the small curve of the stomach are most frequent.

In all the cases of ulcer we have had, there was inflammation of the stomach or the duodenum. In the Soviet Union, the cases of ulcer accompanied by inflammation are fewer. Perhaps that is the main reason why in our country the pains connected with those diseases have lost their symptomatic features and their cycles are not clear; the connection between the pains and the meals and seasons are also not evident. In many cases of duodenum ulcer, the pains come early, right after meals. The pains usually are burning; according to the patients, they are like red hot pepper rubbed on the stomach. We seldom find cases in which the muscles ache or the abdomen is paralyzed by pains, contrary to what Gutman has described. Several of our patients had scattered pains, which prevented us from finding the Mendel point.

It is also possible that, in addition to the fact that the inflammation blurs the features of the ulcer, the cases of ulcer in our survey are, according to Gutman, relatively old (the great majority of our patients had pains for more than 2 years) and, consequently, the ulcers had time to penetrate deeply into the walls of the digestive system and to touch nerves, thus causing the inflammation of nerves and perigastritis; as a result, the patients had pains continuously, without any cycle.

Another important reason is that the great majority of our patients had parasites in their digestive tracts, particularly chopstick-looking worms and "ankylostomes". These parasites can cause secondary infections (according to Podjakolskain, Kapustin, and Pomerantsev) and create chronic neuro-vegetative irritations which have some impact on the movements of the stomach and the conditions of the mucous membranes.

An important number of our patients also had chronic infections in their mouths and throats (infected teeth, inflammation of the throat, and tonsilitis) which were factors contributing to more infections in ulcers. In addition, mention must be made of the role of other diseases, especially the inflammation of the bile, the inflammation of the large intestines due to amoebic dysentery, etc., which create an "inter-visceral reflex" and cause the pains in the stomach to become more complex and lose their characteristics which have been mentioned in textbooks. It is also necessary to pay attention to the role of several unusual X-ray pictures like that of diverticula; they can have some impact on clinical symptoms.

Another feature is that in our country cases of ulcer and inflammation mentioned above occur mostly within the age range of 18 to 40 years during which people have many potentialities for work and study.

The inflammation of the stomach also has a high ratio which is almost similar to that found in the Red Army of the Soviet Union in the patriotic war. Whether the chronic inflammation of the stomach paves the way for the appearance of one or several ulcers is still a moot question.

Furthermore, the ratio of the inflammation of the duodenum is

rather high, especially that of tubular duodenitis. That can create favorable conditions for secondary inflammations in the pancreas, liver, bile sac and bile ducts. On the contrary, the inflammation of the duodenum may originate from the above-mentioned parts, especially from the bile sac and ducts, and spread to the duodenum.

CONCLUSIONS

In our opinion, the above characteristics must be given attention in the treatment of ulcers and inflammations. Stomach and duodenum ulcers and inflammations are not local diseases; they spread to the entire body and are influenced by external and internal factors (H. Eschbach). In their treatment, it is necessary to solve the problem of inflammations which, according to Bykow, disrupt the cortico-visceral coordination by eliminating the factors which irritate the mucous membranes and the motility of the stomach.

Consequently, we believe that, in the treatment of stomach and duodenum ulcers and inflammations, it is necessary to pay attention to the factors which irritate nerves and organs, to cure parasitic diseases in the digestive tract, infected teeth, inflammation of the throat, tonsilitis, etc. and, at the same time, to fix a given diet and way of life for the patient so as to avoid tension, immoderate drinking or eating, and the like. These factors can only make the above diseases become severe and chronic; at that time, the treatment would be difficult and complicated (according to H. Eschbach).

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RESULTS OF THE ANTI-PROSTITUTION FIGHT IN VIETNAM

/Following is the translation of an article by Professor Dang Vu Hy in the Vietnamese-language periodical Y Hoc Viet Nam (Vietnamese Medical Science), No. 2, 1962, Hanoi, pages 30-37./

Since the return of peace and the liberation of North Vietnam from imperialism, the Government of the Democratic Republic of Vietnam has paid special attention to the eradication of such social diseases as alcoholism, opium addiction, gambling, and prostitution; these diseases prevailed in the old society of Vietnam during the imperialist and feudalist era. The anti-prostitution fight in the North has especially netted very significant results; after 7 years, the time has come for us to review the situation and draw our conclusions.

We shall analyse the anti-prostitution methods and their results under the colonialist regime and under that of the Democratic Republic of Vietnam respectively; the last part of our study will be devoted to our conclusions.

1. PROSTITUTION UNDER THE COLONIALIST REGIME

During 75 years under imperialist domination, prostitution became a big wound in the society of Vietnam, just like alcoholism, opium addiction, and gambling. The colonialist government did not prevent them from spreading; on the contrary, it publicly or "secretly" adopted measures for their development in order to make profits. For example, the colonialist government had the opium monopoly and took care of its

sale to the people; a French capitalist company monopolised in alcohol distillation; since a large volume of sale in alcoholic beverages could serve the interests of this company, the colonialist government sent "secret" instructions to provincial authorities for the strict inspection of the sale of alcoholic beverages and for each province to buy a given quantity of alcoholic beverages per capita every year. (See "The Case Against French Colonisation" by Nguyen Ai Quoc.) In such a situation, the anti-prostitution fight was not given attention whenever it did not encroach upon the interests of the colonialists. Furthermore, to meet the needs of the colonialist troops as well as to increase their funds, the colonialists allowed the opening of prostitution houses so long as an appropriate fee was paid to the "government" for a "license". Thus, on official documents there were a few regulations governing the control of prostitution, like the compulsory medical examination of prostitutes, but in reality these regulations were carried out to some extent in big cities like Hanoi and Haiphong in which were stationed many colonialist troops; the purpose, of course, was to protect the occupation forces. And again that control was nominal rather than actual. For example, in Hanoi in 1930, the population amounted to 100,000 persons among whom there were 500 prostitutes who were registered in the city's records; there was also a vice squad which actually could only control 158 prostitutes; according to Dr. Joyeux who was in charge of the Sanitation Service of the city at that time, there were approximately 5,000 prostitutes, i.e. 5% of the population. In Haiphong, there were

185 prostitutes recorded in the books, but according to the estimates of Gaide, Inspector General of the Indochinese Medical Assistance Service, there were about 2,000 of them.

From the standpoint of venereal diseases, the situation was even worse. Also according to Dr. Joyeux, among the prostitutes arrested in Hanoi, 93% had venereal diseases; many of them had two or three types of diseases simultaneously and 63% had Bordet-Wassermann symptoms. That means those prostitutes had many conditions to spread diseases and it would not be surprising if among the people there were many persons suffering from venereal diseases.

A special angle of the completely free prostitution in Vietnam, which was quite different from that in Europe, was the institution of geisha houses. Before the imperialist domination, during the peak of Confucian influences, geishas were professional singers and poetry reciters in banquets and poetry contests; some of them were educated and could compose poems and songs themselves; most of them were married and had children; in other words, they 'did not sell their bodies to feed their mouths." But under the foreign domination, the Vietnamese culture deteriorated and the geisha profession lost all its cultural and artistic traits. A great number of geishas became prostitutes; for example, in 1944 in Hanoi and its suburbs about more than 1,000 geishas had to entertain customers every night. Because these geishas technically were not required to have medical examinations, the danger of their spreading

diseases was all the greater. For example, in such a small town as Bac Giang, around 1941-1942, 32 geishas had their medical examinations together and 29 of them, according to a physician, had syphilis in its contagious stage.

Such was the situation of prostitution in urban areas. In the countryside, most districts and townships of various sizes had a few geisha houses consisting of 2 or 3 geishas per house; for example, in Go Le, a small township situated 14 kilometers from Nam Dinh, there were more than 10 geishas who constituted a regular source of venereal diseases with no control organization.

Even the education of the masses about venereal diseases was very rudimentary; there was an "Association for the Prevention of Venereal Diseases" operating irregularly in Hanoi and having no significant influences on the people.

II. DURING THE RESISTANCE

After the success of the August Revolution and the establishment of the government of the Democratic Republic of Vietnam, the Department of Public Health started immediately to take care of the fight against prostitution and venereal diseases; at the beginning of 1945, it adopted the resolution made by the dermatopathy department of the College of Medecine and Pharmacy which had been widely discussed at the Institute of Social and Medical Assistance; it fixed a new policy for the fight against prostitution and venereal diseases, radically eliminated prostitution houses, abolished vice squads, widely opened hospitals

and dispensaries to the people for medical care in cases of venereal diseases, set up a program to rehabilitate prostitutes, and propagandized against venereal diseases by relying on the people's organizations.

That is a change in the anti-prostitution fight which is progressive, particularly important and decisive; it is the basis for the future eradication of prostitution. Unfortunately, as soon as the plan was set up, it was opposed by the imperialist troops which were permitted to return to Hanoi in accordance with the Preliminary Accord of March 6 and which wanted the reestablishment of prostitution houses; after the nationwide resistance started, the country was divided into one completely free zone and one zone temporarily controlled by the imperialist troops; as a result, the anti-prostitution fight varied with each zone and it was possible to compare clearly the results of the anti-prostitution fight carried out by the imperialist-feudalist regime and by the people's democratic regime.

a) In the free zone, right from the first days of the resistance, the people were enthusiatically patriotic; they frowned upon any youth who fooled around with prostitutes when the entire nation shed blood to protect the country; as a result, geisha houses as well as prostitution houses had to be closed down and their managers volunteered to change their behavior and dismiss the girls; and thanks to the campaigns conducted by the Association of Women for National Salvation, geishas and prostitutes changed their trade; under the pressure of the people, especially that

of the women's organisations, the go-between had to free their girls they had kept for making profits; among geishas and prostitutes, some carried on commercial activities, some went back to their native villages, and some joined first-aid teams; none of them went back to her former trade. This is a case which shows more clearly than anything else the effectiveness of the popular forces; when the people consider it necessary to eradicate a social disease, it will be eliminated regardless of its long-lasting existence throughout history; the task will be difficult to achieve if the people's participation is not encouraged. In many localities, geisha houses and prostitution houses were gradually closed down; as a result, when the victory of the resistance was near, especially when land reforms were carried out, wicked prostitutes and panders were denounced by the aroused masses. In the free zone there were practically no prostitutes. That was a very glorious victory in the elimination of an age-old social disease and such fast results were achieved precisely because of the participation of the masses, the women's organizations and the youth groups.

b) The situation was different in the zone temporarily controlled by the imperialists. Wherever the imperialist troops were stationed, prostitution expanded very rapidly. For example, in Hanoi in 1954, the population amounted to 240,000 persons among whom there were at least 12,000 prostitutes as shown in the police's records. Following are details concerning those prostitutes:

1. There were at least 3,000 kept women for the expeditionary corps

and the Foreign Legion;

2. There were approximately 3,000 women and girls who fled to Hanoi in search of work because they could not safely make their living in the guerilla areas; not only they did not find any work, but they were lured into becoming unlicensed prostitutes;

3. There were about 3,000 licensed prostitutes whose names appeared in the police's records;

4. And mention must be made of more than 1,000 geishas, more than 300 taxi girls as well as a number of part-time prostitutes.

Above are the official figures from the police's records, but, according to several persons who worked for the Sanitation Service of the city of Hanoi at that time, those figures could be much higher. Thus, during the imperialist administration, there were at least 5 prostitutes out of 100 inhabitants in Hanoi. The situation was really miserable but, unfortunaly, that was the truth.

c) In the guerilla areas bordering the two zones, the imperialist troops usually undertook mopping-up operations and, thus, there was no prostitute. But rapes were very regular; the imperialist troops raped any female they caught, from small girls to old women, who could not abandon their ricefields because they were poor and hungry.

III. AFTER THE RETURN OF PEACE IN THE NORTH

As we have seen, there was practically no prostitution in the free zone administered by the people's government until the return of peace in the North. But the situation was entirely different in the areas

newly liberated from imperialist occupation, like Hanoi and Haiphong, for instance.

After the armistice, a number of kept women and managers of geisha houses and prostitution houses took their girls to the South since they were accustomed to sponge on the French expeditionary corps, capitalist merchants, hoarders, and speculators. The rest of them remained in the North with the intention of continuing their trade.

But changes occurred. A number of peasant women who had fled to the urban areas because of mopping-up operations had been lured to become prostitutes as they had been unable to find work. When peace was restored in the countryside, they personally wanted to go back to their native villages and lead an honest life. Fortunately for them, conditions were favorable since there was the movement for land reforms around 1955-1956 in rural areas and each person was given land and ricefields so as to make their living. Those women who had previously been somewhat exposed to farming work could at that time lead an independent life and free themselves from their feudalistic families since they had their means of production. A number of them abandoned their prostitution activities after being educated by local authorities and various organizations.

Here, we find it appropriate to stress the good influences of land reforms on the anti-prostitution fight which supplied women with means of production, freed them from the oppression of their families, and helped them avoid prostitution.

There was, however, a number of prostitutes who held on to their

trade, probably because they could not free themselves from the panders' grips. It is necessary to analyze clearly the social composition and causes which made them become prostitutes; only then can we take proper measures to fight prostitution.

A. ANTI-PROSTITUTION MEASURES

a) Following is the social composition of prostitutes:

- Poor peasants	58.96%
- Small merchants and poor persons in urban areas	22.27
- Workers	9.60
- Rich peasants	0.88
- Landowners	2.18
- Miscellaneous	6.11

(According to Dang Vu Hy, Ngo Thi Minh, and Hoang Thi Thuy - First Dermatopathic Conference)

Thus, the great majority of prostitutes previously belonged to the working classes.

b) But why were they compelled to become prostitutes?

Our investigations regarding 224 prostitutes show that

- 43.46% of them were unemployed and hungry,
- 31.60% did not get along well with their feudalistic families, stepmothers, mothers-in-law, or polygamic husbands,
- 6.68% liked luxury, and the rest of them became prostitutes for other reasons.

It can be said that the main causes of prostitution are hunger and disagreement with the family.

Consequently, the most appropriate measures are:

First, to place prostitutes in reformatories so as to separate them from panders and "madames", to train them to work and be self-sustaining, and to give them treatment in cases of venereal diseases.

As regards work in reformatories, there are two types which depend on the social composition of prostitutes. Those belonging to the poor peasantry will be assigned to do farming work like planting sugar-cane, manioc, etc., whereas those coming from the classes of small merchants, workers and poor families in cities will be trained in handicrafts like wool weaving, mat making, etc...

Secondly, to eliminate prostitution houses radically so as to prevent temptation; rooming houses will also be forbidden to get prostitutes for their customers; as for panders and "madames", they will be sent to rehabilitation camps just like other delinquents.

In this task, the government is warmly supported by the women's organizations and youth groups; whenever there are indications that a woman is a prostitute, she may be brought to a public meeting in which she will be criticized and warned by the women's organization in the neighborhood; after one or two warnings most prostitutes will have to abandon their trade.

B. BASIC RESULTS OF THE LIQUIDATION OF PROSTITUTION

In reformatories, the educational results are very good. Many

prostitutes repented and became fed up with their trade after 15 days or one month, but they had to stay in their reformatories for a longer period of time to receive treatment and learn a new trade. Following are the results of a follow-up survey of 203 prostitutes:

24.14% of them were reformed within 6 months,

15.76% from 6 months to one year,

40.89% from one year to 2 years,

15.77% from 2 years to 3 years,

3.44% over 3 years.

It is not true, however, that all prostitutes could be easily reformed; there were a few cases in which the retraining process was very difficult, especially when a prostitute had been in her trade for many years or had lost her mental balance; sometimes, such a woman escaped and was rearrested 3 or 4 times. Of course, the results depend partly on the educational skill and particularly on the determination of those in charge of reformatories.

Thanks to a rather high level of education and determination as well as to the people's networks of control of prostitution, the number of prostitutes in large cities has diminished very rapidly. For example, in Hanoi in 1954 there were up to 12,000 prostitutes, but in 1956 the number was reduced to 200 and the decrease continued annually. In Haiphong there was a similar decrease. In rural areas, it can be said that prostitution practically is completely wiped out.

Consequently, it can be said that throughout North Vietnam prostitution

has been basically liquidated.

C. DECREASE IN VENEREAL DISEASES

Since prostitution, which is the main source of venereal diseases, has decreased so rapidly, there has been a concomitant decrease in venereal diseases. That has been most evident in large cities.

a) As shown in the following table, there was a decrease in cases of syphilis recorded by the dermatopathic office in Haiphong:

Year	Total Number of Persons Examined	Cases of Syphilis	Percentage
1957	2,732	456	16.69
1958	5,050	51	1.00
1959	6,516	40	0.60

b) There was a similar decrease recorded by the examination center in Sinh Tu Street in Hanoi:

Year	Total Number of Persons Examined	Cases of Syphilis	Percentage
1957	16,403	823	5.01
1958	15,717	571	3.63
1959	14,632	222	1.51

c) After the war, the Dermatopathic Department of the University of Hanoi managed to salvage several data which have enabled us to compare the two states of syphilis during the imperialist domination and at the present time.

1. In terms of percentages regarding venereal diseases in general,

out of 7,525 persons who were examined in the Dermatopathic Department of the University in 1941 there were 6,072 persons having venereal diseases, i.e. 80.69%; in the three years 1958, 1959, and 1960, under the people's democratic regime, there were only 607 cases of syphilis among 19,610 persons who had their medical examination in the above Department, i.e. 3.09%, and the percentage of all cases of venereal diseases was only 4.6%.

2. If we consider cases of newly caught syphilis so as to show more clearly the present influences of prostitution, Grenier-Boley has found that in 1940 there were 1,375 cases of newly caught syphilis amoung 5,995 examined persons, thus representing a percentage of 29.76%. The above author has written that "every day 4 persons caught syphilis, which represented an exceedingly high percentage since a city in France, having the same population as Hanoi, had only 10 cases every year." At the present time, however, the Dermatopathic Department has shown that there were 4 cases of first-stage syphilis in 1955, while one case was detected in 1956, one in 1957, and two were found in 1958... The annual cases of newly caught syphilis are few as compared with the 4 cases detected daily in previous years. As shown in the following table, a similar situation is found in the examination center for skin diseases in the city of Haiphong:

	1956	1957	1958	1959
First-stage syphilis	2	4	1	1
Second-stage syphilis (newly developed)	5	7	1	1
Second-Stage syphilis (recurrent)	24	5	3	

3. It is to be noted that since 2 or three years no case of syphilitic chancre and Nicolas-Favre disease has been found.

Thus, thanks to our victorious anti-prostitution fight, there has been a decrease in venereal diseases and no case of syphilitic chancre and Nicolas-Favre disease has been detected.

IV. EVALUATION OF THE RESULTS OF THE ANTI-PROSTITUTION FIGHT

After 7 years of struggle, prostitution in the North has greatly decreased; it can be said that at present it has been practically eliminated. Is the decrease in prostitution a phenomenon common to all countries? Definitely not.

As everybody knows, when young men are discharged from the armed forces after a war, prostitution increases more and more each day. Such a situation has been found in Italy and Portugal. In Portugal, for instance, the number of prostitutes, especially unlicensed ones, greatly increased after World War II; in 1945 there were only 119 unlicensed prostitutes but in 1954 their number increased to 285 (Touraine). In Italy, the Ministry of the Interior has reported that the number of prostitutes tends to increase in 33 cities (P. Maugrange). The fact that the number of prostitutes in North Vietnam has decreased is of special significance.

Why has the number of prostitutes in North Vietnam decreased?

We find many reasons as follow:

1. The correct policy of the Ministry of Public Health regarding the anti-prostitution fight since 1946; it is evidenced by the closing

down of prostitution houses and the opening of reformatories to prostitutes so as to enable them to escape from the grips of the "madames".

2. The constructive participation of women's organisations and youth groups in the anti-prostitution fight; governmental measures are not adequate; many imperialist countries have forbidden prostitution in a loose manner and, thus, prostitutes continue to carry on their trade secretly, sometimes with the protection of influential people. The participation of the people's organizations is necessary; each time a woman indulges in prostitution activities she must be warned and helped; only then can governmental measures be effective.

3. But above all, there must be a people's government which places the people's interests above everything else, is not bound because of individual interests or a minority of persons, and is determined to spend money for the anti-prostitution fight; only then can the fight be successful. The imperialist countries have anti-prostitution regulations, but they have not got any results. As for prostitution in a number of socialist countries, like in Soviet Russia for instance, it can be said that it has been practically eliminated. The equality between men and women, the solving of the unemployment problem and the construction of an independent economic basis for women are the essential measures for eradicating prostitution.

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SURGICAL TREATMENT OF 43 CASES OF ALIEN OBJECTS IN THE LUNGS
A STUDY OF THE LUNG SURGERY BRANCH OF THE ARMY HOSPITAL #108

/Following is the translation of an article by Le Cao Dai and Le Quang Trung in the Vietnamese-language periodical Y Hoc Viet Nam (Vietnamese Medical Science), No. 2, 1962, Hanoi, pages 11-18./

The usual type of wounds we have to treat is the chest wound. According to cases found in the Soviet Union during World War II, the number of soldiers wounded in the chest represented about 8 or 9% of the total number of wounded soldiers. In those cases of chest wounds, about 55% died (30% died when wounded, 20% while being transported, and 5% in hospitals) (according to Djamelime).

Among the wounded soldiers taken to hospitals in the rear of the field of operations, the great majority recovered completely (90% according to Kounnetsov, 89% according to Morit). The great majority of cases of disabled soldiers was caused by alien objects that remained in the lungs.

From September 1959 to November 1961, we treated in the Army Hospital #108 fifty-nine soldiers who still had bullets in their chests; among these cases, there were 3 for which an operation was not advised; we operated in the following 56 cases:

- Bullet in the lungs	43 cases
- Bullet in the heart (pericardium or inside)	3 cases

- Bullet in the middle mediastinum 1 case
- Bullet in the anterior mediastinum 4 cases

Most of the 48 patients with bullets in their lungs are comrades who were wounded during the resistance period and whose wounds were healed; they came to the hospital for treatment because of complications that appeared a long time after the wounds had been inflicted; 4 comrades had been operated one or two months after being wounded. One comrade had been wounded 14 years ago (1946) while most comrades had been inflicted chest wounds 5 to 12 years ago.

All patients were men whose age ranged from 19 to 35 years.

Wounds were caused by:

- shrapnels (grenades, cannon shells, etc.) 39 cases
- bullets (rifles, machine guns, etc.) 9 cases

It is to be noted that usually it is easier to operate and remove bullets (from sub-machine guns or rifles) than to do shrapnels because shrapnels being sharp-edged cause more serious lung wounds than bullets and, thus, bleeding and infection are more dangerous and spread to many organs attached to the pleura; in such cases surgery is difficult and bleeding is profuse.

Wounds were located:

- in the right lung in 31 cases
- and in the left lung in 17 cases.

As for the itinerary of the bullet, it is to be noted that:

There were 2 cases (files No. 43 and No. 46) in which the bullet passed near the collarbone, went through the lung vertically and lodged in the transversus thoracis. In another case (file No. 46) the bullet touched the thoracic nerve and the left recurrent laryngeal nerve; right after being wounded, the patient lost his voice for 3 months; after the healing of the wound, the patient's voice became hoarse; the transversus thoracis was drawn up because the thoracic nerve was impaired.

In one case (file No. 44) the bullet went through the two lungs horizontally. It passed near the right collarbone, went through the right pleura and the left lung, and lodged between the two pleurae of the left lung. Right after being wounded, the patient vomited much blood, but later the wound healed itself.

From the standpoint of treatment, the patient usually had been operated on and given antibiotics. A number of patients had the surplus blood removed from the pleurae.

DECISION TO OPERATE

We operated to remove the bullets in the following cases:

1) Large-size bullets. We have found that large-size bullets (over one centimeter) should be removed whether they have created complications or not. Recently, a number of newly wounded soldiers had smaller bullets (less than one centimeter) in their bodies. But experience has shown that in old wounds pieces of bullet as small as corn grains could create many complications and, thus, we have made more decisions to operate than we did. In the cases mentioned above, we removed bullets which were only

bigger than ½ a centimeter.

2) Bullets causing much bleeding, regarless of their size.

3) Bullets causing infection: pus in the pleurae, the bronchi, etc...

4) Bullets causing much pain and hampering work.

We did not remove small bullets which have been in the lungs for a long time and which have not caused any pain or infection.

The most usual complication is the vomiting of blood, which worries the patient most (39 out of 48 cases); as a rule, the vomiting of blood appears right after the wound has been inflicted and lasts many years even after the healing of the wound. A number of patients began to spit blood again 3 or 4 years after the presumably complete healing of the wound.

Quantitatively speaking, the amount of vomited blood is insignificant; the vomiting of blood usually appears when the patient does heavy work or when winter comes. Once the patient has been treated and taken a rest the vomiting disappears.

Because of the vomiting of blood, the patient has to enter a hospital right after being wounded. There have been comrades who had to receive treatment 5 or 6 times, each time lasting 3 or 4 months; as a result, they were unable to work. There was a comrade who was considered a tuberculosis case and, thus, received treatment in a tubersulosis sanatorium for 5 or 6 months; later it was found that he had a bullet in his lungs; after an operation, the vomiting of blood ceased.

On the other hand, there was a patient (comrade Ng. v. S.) who had a bullet in his left lung and tubersulosis in his right lung. After

being treated in a tuberculosis sanatorium, he was considered cured and released. But he continued to spit blood at home and it was suspected that was due to the bullet. He came to the Army Hospital #108 to request for the removal of the bullet. We put him under observation for some time and found out that his tuberculosis was still active and his sputum was full of koch bacilli. No operation was performed.

There was another case in which the patient did not show any symptom although he had a large-size bullet in his lungs. Wounded in 1951, he was cured and did not know he had a bullet in his lungs since he did not spit blood and there was no pain. In 1959, during a medical check-up, the X ray of his chest showed that a rifle bullet nearly 3 centimeters long lodged in one corner of his left ribs. Because of the size of the bullet, we operated and removed it.

According to Djanelitze, the case of a patient having a bullet in his lungs and showing no pain is usually of temporary duration. After a period of time which varies with each case the patient will have complications and the bullet will have to be removed. We have seen several patients who did not show any symptom for 3 or 4 years and was considered completely cured; yet they spit blood later on.

There are similar cases in the medical literature throughout the world. According to Erist, a patient spat blood after a period of 10 years; in Lilienthal's survey, another patient did so after 15 years. A patient treated by Weiss spat blood after 25 years but the record case was that of Professor G. A. Reinberg (1942) in which it took the patient 42 years

before he began to spit blood. The removal of the alien object stopped the bleeding.

Consequently, when we saw a rather large bullet lodging in the chest of the above-mentioned patient, we decided to operate and remove it because it was a permanent threat to the patient despite the fact that there was no symptom.

To determine the position of the alien object in the lungs, we have always used X rays. Usually two X-ray films--one straight and one oblique--are quite sufficient.

In the first 5 cases, we used large-size X-ray films in order to get the depth of the alien object, but later we found out that these films were not of great help; we no longer requested them so as to economize them.

In 5 cases, we had the bronchial tubes X-rayed because we suspected that they were damaged.

In 2 cases, we had the oesophagus X-rayed so as to study the effects of the alien object on it.

Cases difficult to diagnose are those in which the alien objects are located in the external structure of the thorax. To determine the location of such objects, we usually examine the patient with X-rays; we turn him around after placing him under the X-rays; if the alien object lodges inside the ribs or moves with the lungs when the patient breathes, it is in the lungs.

PREPARATION OF THE PATIENT BEFORE THE OPERATION

For all the patients who required an operation for the removal of

bullets, we made all the chemical tests and studied the functioning of livers, kidneys, hearts (cardiograms), and lungs.

For the first 12 cases, we did not administer any pre-operative drugs, but for the other cases we used coagulants to avoid much bleeding during and after the operations (vitamin K, vitamin C, calcium) and gave large doses to the patients (vitamin K 0.05 centigram daily; vitamin C 0.500 centigram daily; calcium chloride 0.50 centigram, one or two injections daily).

One or two weeks as well as a few days before each operation, 100 cc. of blood was transfused into the patient. Such a measure, combined with the careful treatment of hemorrhage during the operation enabled us to reduce the loss of blood and the amount of blood transfused into the patient. In the first 11 cases, because those measures were not taken, the amount of blood lost was 722 cc. whereas the amount of blood transfused was 500 cc.; in one special case, 2,500 cc. of blood was transfused. In the other 37 cases in which the above measures were taken, the amount of blood lost after the operation was about 100 to 300 cc. and the amount of blood transfused varied from 200 to 400 cc. on the average.

Anesthetics.- In 47 out of 48 cases, we administered anesthetics by inhalation and we used ether, oxygen, Pentothal, etc...

Only in one case was the patient operated on while under local anesthetics. He had a bullet in the peripheral area of the lungs. Yet, we were faced with many difficulties when we reached the pleura because the patient's breathing was irregular and his blood pressure decreased.

But the operation was carried out with no accident.

We have found that in lung surgery local anesthetization is very difficult and can be dangerous. Consequently, only anesthetization by inhalation can provide safety for the patient and facilitate the work of the surgeon. Before each operation we always open a vein in the patient's leg for the transfusion of blood and blood serum during the operation.

OPERATIVE METHOD

We usually make a side incision and go through the space near the fourth or fifth rib depending on the location of the alien object; the front rib cartilage may also be cut. If there are many adhesive tissues, we cut the rib so as to have a wide opening.

When cutting through the pleurae, we usually encounter adhesive tissues which attach the lungs to the thorax. In a few cases, we removed all the adhesive tissues before looking for the bullet; but usually the hemorrhage was heavy and we found the removal of the adhesive tissues useless since the lungs were glued back to the adjacent membranes after the operation; as a result, in later cases, we only removed the adhesive tissues wherever it was necessary to remove the bullet. However, it is essential to remove enough adhesive tissues so that the lungs can expand and occupy their original space up to the pleurae.

After freeing the lungs, we looked for the bullet with our fingers. This is usually not very difficult if the bullet is big. When it is found, we look for the most shallow part of the lungs through which we grip the bullet with two fingers and used a pair of dissecting pincers

to cut through the lungs slowly in order to get to the bullet. In the case of a patient who has had a bullet in his lungs for a long time, there is usually a fibrous capsule around the bullet. If the wound is recent, the removal of the bullet is relatively simple since there is no fibrous capsule. We usually remove the capsule if the operation is easy. But if the bullet lodges deep in the lungs and near large veins or arteries, the removal of the capsule may damage the veins or arteries; in such a case, we do not remove the capsule but we scrape the inside of the capsule to clean it.

In 44 out of 48 cases, we performed the above pneumonotomy to remove the bullet. In 4 cases in which the bullet was near the edge of the lungs, we made a cuneiform resection to remove both the bullet and the fibrous capsule. In 4 cases, a little amount of pus was found in the capsule but after the operation there was no significant complication.

Before closing the thorax, we carefully checked the bleeding areas through sewing or electric cauterization; afterwards, we poured anti-biotic powder into the pleurae and closed the thorax. In the first 6 cases, we did not use blood-drainage tubes because there was little bleeding during the operations; but later we found blood accumulated in the pleurae and had to drain it many times; as a result, we always use blood-drainage tubes in later cases.

As for post-operative care, we checked the patient's blood pressure and pulse hourly during the first 12 hours and, later, every 2 or 3 hours. The patient was put in an oxygen tent during the first 5 or 6

hours after the operation. The drainage tube was put in a bottle of water and operated continuously under low pressure (15-20 centimeters of water) during 24 hours; it was withdrawn if the X-rays showed that the lungs expanded well and there was not liquid in the pleurae. As for treatment, we went on with the drip for the first 24 hours. Afterwards, we continued to give the patient transfusions of blood serum or blood if necessary. Anti-biotics were administered directly to the body or through the drainage tube to the pleurae (while the tube was still used) until the body temperature became normal.

SPECIAL CASES

In 2 cases there was pus in the pleurae. In one case, the patient (File No. 47) was wounded in 1952 and had pus in his pleurae. The Army Hospital X used a rubber tube to drain the pus. Since the rubber tube was not fixed, it fell into the pleurae and could not be removed. The wound was healed but the patient continued to cough and sometimes spat blood and pus.

Recently (8 years after he had been wounded) we operated on the patient and removed an eight-centimeter piece of rubber tube as well as a piece of bullet as big as a grain of corn which lodged in a sac of pus in the pleurae; the sac had a very hard and thick wall.

In the second case, the patient was wounded in the right side of his chest (Patient H.V.P., File No. 698); after one month and a half, he entered the hospital in critical conditions: high fever 39-39.5 degrees Centigrad, pus coming out of the wound. We operated on him and removed

thick pus and fibrin. On the rims of the lungs there were tiny holes. We removed a bullet as big as the first phalange of the thumb which lodged in the area above the liver. Because the patient was too weak, no other major operation was performed. We put a drainage tube in place and closed the thorax. After the operation, the lungs did not expand themselves to their normal size and, thus, the patient had a vacuum filled with pus; that lasted for 4 months (until June 1960). Afterwards, the patient had the symptoms of enlarged bronchial tubes; he spat much blood and pus many a time. While he was treated in order to improve his constitution and to get ready for a more radical operation, he spat blood profusely for one week in July 1961 (up to 400 or 500 cc. of blood and mucus daily). After the failure of a treatment by drugs, he had to undergo an emergency operation; we tightened the arteries in the lungs and operated; the lower and middle lobes were deflated and stuck to the thorax. Since the general condition of the patient was very weak, we could not remove the damaged parts of his lungs. He is now being treated while waiting for a more radical operation.

Those two cases clearly show us that it is necessary to remove the bullet early. If there is a sac of pus in the pleurae, treatment will be much more difficult and complex.

There was a case in which we removed a bullet which lodged in a branch of the trachea.

The patient named Le-Hong-T. (File No. 23FTF) who had a wound since

1953 spat blood many times because a bullet lodged in the tracheal branch in the lower right lobe. During the operation we found the bullet near the artery in the lobe. After removing the bullet, blood and air came out from the incision area. Three stitches were required to stop the bleeding, but, at that moment, our anesthetist informed us that much blood flowed through the clearing tube placed in the trachea. We turned the operation table and let the patient lie with his head down. We closed the thorax after inserting a drainage tube in it. The patient was made to lie on his back. His breathing was reduced and labored. We opened his trachea and used the Krishaber tube to remove a clot of blood 15 centimeters long and shaped like a bronchial tube. Afterwards, the patient's breathing was easier. When the anesthetizing machine was checked, we found about 300 cc. of coagulated blood in its rubber tube.

After the operation, the patient's conditions were good. The drainage tube in the pleura was removed after 2 days, the Krishaber tube after 3 days. The patient was cured and left the hospital 24 days after the operation. His lungs were completely clear.

In the above case, the bullet tore a branch of the artery in the lower lobe and a part of the trachea. When we removed the bullet, blood got into the trachea and flooded it. Our anesthetists managed to drain the trachea well. The timely decision to open the trachea effectively helped the drainage of blood in the respiratory tract and prevented the collapsing of the patient's lungs, his shortness of breath and his catching of aspiration pneumonia.

POST-OPERATIVE RESULTS AND COMPLICATIONS

We did not have any case of post-operative lung abscess or hemorrhage. There were two cases in which we could not remove the bullets:

- In one case (comrade D. Q., file No. 17 PTP/61, the piece of bullet was as small as a grain of pea, but we decided to operate because the patient spat too much blood many times. During the operation, we found pneumosclerosis in many parts of the lungs and the bullet lodged in the area near the trachea. Although we used X-rays during the operation, we could not find the bullet after a long search. We had to close the thorax without removing the bullet.

- In a second case (comrade H.D.T., file No...) the bullet was as big as a grain of corn. In the X-ray film only one piece appeared. During the operation, we found an alien object in the area in which the bullet appeared in the film. We removed the object. After the operation, we checked again through a X-ray film and found that the bullet was still in the lungs. The piece we had removed was probably a piece of cartilage drawn into the lungs by the bullet. Since we had not seen it in the film, we removed it instead of the bullet.

The above cases have taught us that:

- We need to be cautious when we decide to remove small alien objects. Many times they cannot be removed by surgery.

- During the operation, one should check the areas around the alien object carefully because other objects (bit of clothing, piece of bone, etc.) may have been drawn into the lungs when the patient was wounded

but do not appear in the X-ray film.

In addition, we had a case in which we removed a bullet that lodged in one corner of the sternal ribs. After the operation, the lungs could not expand to their fullest and, thus, we had to perform a myoplasty in accordance with the Abrajanov method. Only then could the patient be cured.

Generally speaking, there was no death in more than 48 cases in which an operation was performed to remove bullets. With the exception of the above-mentioned case of a sac of pus in the pleura of the patient who is still being treated in our hospital, all the other patients were released after one or one and a half months on the average.

We have not found any documents dealing with the results of surgery for the removal of alien objects in the lungs at the present time. But by using pre-war and post-war figures, we have found that in Djanelitze's Clinic there were 8 deaths out of 153 cases and the death rate was 5.2%; in Sauerbruck's Clinic there were 7 deaths out of 100 cases; in Lefort's Hospital, 7 deaths out of 99 cases; the best results were achieved in Konietch's Hospital where there was 1 death out of more than 37 cases.

CONCLUSIONS

In the past two years, we have performed operations on 48 patients who had alien objects in their lungs. These objects usually caused many complications like pain, blood spitting, etc.; they incapacitated the patients who could not do heavy work and had to enter the hospital many times.

Decision should be made to remove bullets which are bigger than one centimeter or cause many complications. As for new wounds, we have decided to operate for the removal of objects bigger than ½ centimeter. As regards too small objects (of the size of grains of pea), one should not operate because it is very difficult and they may not be found; furthermore, they may not create any damage to the area of the lungs in which they lodge.

Our surgery method is incision. We are of opinion that it is not necessary to cut part of the lungs because of one bullet and that this operation should be performed only when there is pneumosclerosis, dilatation of the trachea or pus in the lungs.

Usually, this type of surgery is relatively simple, the death rate low, and pre-operative preparation made by using coagulants. During the operation, bleeding has to be carefully controlled and dissecting has to be limited so as to prevent too much a loss of blood and to reduce blood tranfusion to the patient.

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COMBINATION OF WESTERN AND EASTERN MEDICINES FOR THE TREATMENT OF ENCEPHALITIS

/Following is the translation of an article by Dr. Nguyen Huu Thuyet of the Institute of Research in Eastern Medicine in the Vietnamese-language periodical Y Hoc Thuc Hanh (Applied Medical Science), No. 85, September 1962, Hanoi, pages 5-8./

The Institute of Research in Pediatric Eastern Medicine and the Western-Medicine Hospital have combined their efforts in treating 10 cases of grave encephalitis: fever 40 degrees Centigrade prolonged convulsions, and fast entering into coma.

In the 10 cases, there were 7 girls and 3 boys. The age ranges were

- from 3 months to 12 months — 3 cases
- from 1 year to 2 years — 2 cases
- from 2 to 3 years — 2 cases
- from 4 to 5 years — 3 cases

DIAGNOSIS IN ACCORDANCE WITH WESTERN MEDICINE

All the children involved had the following symptoms:

1. They were emergency cases brought to the hospital during the period from June to September, i.e. during summer and autumn in which encephalitis prevailed.

2. Most cases started suddenly (in some cases the initial symptoms appeared to be those of the grippe or the inflammation of the upper respiratory tract), with temperatures higher than 40 degrees, consulsions, deep coma, and vomiting (in two cases, there was blood vomiting and subcutaneous bleeding).

Symptoms included irritation of the meninges, stiff neck, Kernig +, Brudzinski +, Babinsky +, and stiff, contracted body. There were cases in which the limbs shook. Skin reflection (-), reflection of tendons and flesh + +. Response to light of the pupil: dull.

3. The testing of blood, urine and feces showed nothing particular (with the exception of 4 cases in which there was an increase in the quantity of leukocytes and one case in which there was B. Sonnei in the fecal culture.)

With the exception of one case in which there was a slight amount of leukocytes, the cerebreal and spinal fluid was normal.

We were not able to conduct tests during the convalescence of the patients.

4. There was nothing unusual concerning the patients's ears, noses, and throats.

As a result of the above symptoms, our diagnosis was that there were cases of grave encephalitis.

According to their medical records, one patient had suffered from the grippe accompanied with hemorrhage, a second patient had had severe measles, and a third one had encephalitis right after suffering from severe dysentery accompanied with hemorrhage.

DIAGNOSIS IN ACCORDANCE WITH EASTERN MEDICINE

When we started to shift to Eastern medicine, the disease had already gone through the comatic, convulsive stage and had been treated with Western medicine for a period of at least 3 days and at most 16 days.

Considered from the standpoint of the development of the disease, in terms of time and space, the disease had progressed greatly. Eastern medicine considers the disease to progress in 4 stages: ve (peripheral), khi (fluid), dinh (mucous), and huyet (blood).

When the disease gets to the dinh stage, coma and convulsions develop. When it reaches the blood, there is hemorrhage. Thus, there were 8 cases in which the disease had reached the dinh stage and 2 in which the blood was touched.

- From the standpoint of the resistance of the body to the disease, body substances, especially fluids and mucus, which Eastern medicine calls am huyet, diminished greatly.

In sum, according to Eastern medicine, all the 10 patients suffered from the on disease. There were 8 cases of on disease with hot gases prevailing and 2 cases of on disease with a combination of hot and damp gases. Furthermore, in 8 cases, the disease had reached the mucous substances whereas in 2 cases it had penetrated into the blood with loss of body substances.

TREATMENT OF THE DISEASE

We combined Western and Eastern medicines in the following manner:

A. Emergency period: tight combination

B. Period of post-treatment complications: only Eastern medicine is used.

A. EMERGENCY PERIOD

a. Western medicine:

- Transfusion of blood, blood serum and lymph (depending on the patient's conditions, the appropriate type is used to rapidly replace the lost substance.);

- Use of antibiotics to prevent complications and germs from attacking the patient's body;

- Use of vitamins, oxygen, and heart tonics;

- Feeding 2 patients who could not swallow by using the nasal tract;

- Restrictions in accordance with the Western medical specifications.

b. Eastern medicine:

Treatment of high fevers, coma, convulsions, constipation, and retention of urine.

Seven patients were treated by means of acupuncture while 3 were given Eastern drugs.

- Acupunture: We followed the formula below:

1. High fevers and coma: Thap Nhi Tinh (bleeding), Nhan Trung, Ba Hoi, Phong Phu, Dai Chuy, Lao Cung, and Dung Tuyen (shallow acupuncture for 5 to 10 minutes);

2. Convulsions: The above-mentioned points for acupuncture plus Tu Than Thong (i.e. the 4 points on the head: one on the forehead, one in the back of the head, 2 on the sides), Hop Coc, Thai xung, Than Tru, Thien Tru, Gian Su, Hau Khe, and Truong Cuong (acupuncture for 30 minutes, sometimes for 2 or 3 hours);

3. Retention of urine: Trung Cuc, Khuc Cot, Tam Am Giao (acupuncture

for 10 minutes);

4. Constipation and swollen belly: Thien Xu and Tuc Tam Ly (acupuncture for 15 minutes)

5. Vomiting: Noi Quan, Trung Quan, Tuc Tam Ly, and Hop Coc (acupuncture for 15 minutes).

- Eastern drugs:

1. Fevers and great thirst: equal doses of plaster of Paris and Thien Hoa Phan, 8 to 16 grams;

2. Constipation and hardened belly: Dai Hoang (4 grams) and powdered liquorice (2 grams).

- Follow-up:

For severe cases, acupuncture was performed in the morning and at night, whereas for other cases it was done once daily. For some cases, it was done once every two days because of the conditions of the patient.

Usually after 24 hours, the fevers subsided and the patient came out of his coma. Acupuncture on the Thap Nhi Tinh was stopped when the patient's temperature dropped to below 38 degrees C; if the patient now and then lapsed into the comatic stage, acupuncture was done on the Noi Quan and Than Mon (for 5 to 10 minutes).

- Results: High fevers, coma and continuous convulsions stopped:

After acupuncture was performed twice (7 cases), 3 times (one case), and 5 times (2 cases).

The symptoms did not disappear suddenly; they subsided gradually, were no longer continuous and became less and less frequent.

After the emergency period, 8 patients had post-treatment complications whereas 2 of them did not have any complications but developed dysentery.

For the two dysentery cases, treatment by means of Western drugs (chloramphenicol and aureomycin) failed and, consequently, Eastern drugs were used (mainly the concoction Bai Cat Can Cam Lien Thang). These were the cases of on disease with combined hot and damp gases.

B. PERIOD OF POST-TREATMENT COMPLICATIONS

Eight patients had complications:

- Abnormal behavior: Imbecile (7 cases); chewing, screaming, and running (one case);
- Paralysed body and hindered motion: 8 cases
  - The entire body: 2 cases
  - Half the body: 2 cases (one of them had a paralyzed face)
  - Four limbs: 3 cases

In addition to paralysis, there was blindness (2 cases), loss of speech (2 cases), and deafness (2 cases).

All the above cases were treated by means of Eastern medicine (acupuncture or drugs).

As regards acupuncture, we used the following formula:

- For abnormal behavior: acupuncture of Noi Quan, Than Mon and Ba Hoi (5 to 10 minutes);
- For paralyzed face: Giap Xa, Dia Thuong, E Phong, and Hop Coc;
- For paralyzed arms: Ba Hoi, Dai Chuy, Khuc Tri, and Hop Coc;
- For paralyzed legs: Duong Lang Tuyen, Tuc Tam Ly, and Thai Xung

(shallow acupuncture and immediate withdrawal; 10 minutes of acupuncture for severe cases);

- For blindness: Khe Mach, Tinh Minh, Toan Truc, Ty Truc Khong, and Ngu Yeu (immediate withdrawal);

- For loss of speech: Ba Hoi, Phong Phu, A mon, Liem Tuyen, Than Mon, Noi Quan, Tam Du, Dung Tuyen (immediate withdrawal);

- For deafness: Ba Hoi, Nhi Mon, Thinh Cung, E Phong, Trung Chu or Hop Coc (10 minutes of acupuncture).

Time: once every two days, 10 times per treatment.

Drugs: We used drugs that strengthen and nurture the body as well as those which regulate the circulation of fluids in the body--such as, Sinh Dia, Mach Mon, Duong Quy, Huyen Sam, Tri Mau, Dan Bi, etc... We also gave the patients drugs to eliminate convulsions and excess mucus--such as Thien Ma, Cau Dang, San Ha, and Boi Mau.

RESULTS

- Complete recovery: 6 cases (blindness, loss of speech and deafness were eliminated);

- Partial recovery: 1 case (normal motion but slight convulsions)

- Making progress: 1 case (awkward motion).

The treatment period was 2 months on the average. The cost for drugs was 18 piasters on the average.

REMARKS

At present, Western Medical Science has not yet found an effective

drug against encephalitis and, thus, the death rate is still very high. Complications are also numerous. In 1960, the Institute of Eastern Medicine treated up to 121 children (cases of imbecility, madness, paralysis, loss of speech, deafness, and blindness).

Ancient medical books, particularly those in China, did not mention encephalitis but had profound studies of the disease, condensed experiences and presented a medical reasoning that has been proved in real cases. Chinese western-educated doctors who have studied their heritage of traditional medicine, particularly the studies dealing with encephalitis, have used their knowledge to treat the disease; they have been able to lower the death rate (5.9%) as well as to avoid post-treatment complications

In Vietnam, the book "Au Au Tu Tri" and the Moc book of Hai Thuong contain many discussions on one disease which has the symptoms of encephalitis.

Applying the experiences of our Chinese colleagues (Periodical of Chinese Medical Science, Nos. 5 and 8, 1959) and the discussions on the treatment of encephalitis, we have combined Western and Eastern medicines to treat the disease with good results.

The 10 clinical cases which developed with the symptomatic features of each stage as well as the effectiveness of the treatment have proved that the studies on the on disease have a true basis.

However, the results of the treatment have not yet been entirely satisfactory because

1. All the patients had complications,

2. And the treatment of complications took too much time.

As regards the reasons why the treatment did not have better results, we have found out that:

1. The disease developed too fast,

2. The combination of Western and Eastern medicines was too slow,

3. In the emergency period, Eastern drugs were not used more intensively (except 2 cases in which simple drugs were used but their utilization was not quite adapted to the development of the disease). In most cases, acupuncture was applied without any drugs--although in one case there was complete recovery.

4. There was no special drug that is in China to treat severe cases--such as, Cuc Thuong Chi Bao Dan, Bo Huyet Dan, etc...

CONCLUSIONS

From the 10 clinical cases mentioned above, which we observed relatively thoroughly both in a western hospital and a Eastern hospital. we can conclude that Eastern medicine combined with Western medicine can effectively cure severe encephalitis with high fevers, coma and prolonged convulsions; such a combination can also cure complications. If the combination had been done earlier with adequate Eastern drugs, the results would have been fast and complications would have been avoided

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